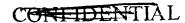The attachment contains information affecting the National Defense of the Unite... States within the meaning of the espionage laws, Title 18, U.S.C., Secs. 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.

*No Days 2, 5 or 6*

### FOR INTERNAL ROUTING ONLY

| CODE | NAME | CODE | NAME |
|---|---|---|---|
| | APOLLO - 8  DSE | | |

*Onboard Voice Trans-cription*

*Hey, foot the moon" 73*

"Burn complete" 88
Borman: "go to bed" 162
Genesis 195
Borman: "Sound made me sick." 233

Trouble telling the holes from the bumps" 74
"Hey, I got the moon" 73
First AOS 88
"Calm down, Lovell" 114
Lost contact or heat prediction 91, 67
Freeman 103
Von Braun, America 103, 105
"If we only had a geologist" 129
Tsiolkovsky 149
Can 152
"Give me the camera, quick" 113
(earth shot)
Urine dumps 198
Borman: lot's say anything
Put us on the camera" 208
"We've got an earthrise picture for Life!" 225
Borman: "looks to me like we ought to be going the other way." 229
Anders: "Hope this baby holds out 2½ days longer" ~233
Anders "What did you take picture of, Frank", p 92

*Pogo on SII   21, 26*
*Lovell "my best flight." 29*
*SECO 36*

*TEI checklist 241-47*

"We're going home,
Borman" 248
"Frank took a picture" 92
Borman: I've lost wt. 237
"Come on, John Glenn" ~60

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☆ GPO : 1966 O--797-276

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

# APOLLO 8
# ONBOARD VOICE
# TRANSCRIPTION

## AS RECORDED ON THE SPACECRAFT
## ONBOARD RECORDER
## (DATA STORAGE EQUIPMENT)

January 1969

GROUP 4

DOWNGRADED AT 3 YEAR INTERVALS
DECLASSIFIED AFTER 12 YEARS

MANNED SPACECRAFT CENTER
HOUSTON, TEXAS

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## INTRODUCTION

This is the transcription of the Apollo 8 flightcrew communications as recorded onboard the spacecraft data storage equipment (DSE), and subsequently transmitted (dumped) to Manned Space Flight Network stations. Magnetic tapes containing dumped voice and onboard recorded ground elapsed time (GET) were forwarded to the NASA Manned Spacecraft Center, Houston, Texas. Transcription of these tapes was managed by David M. Gollerbaum, Test Division, Apollo Spacecraft Program Office, to whom questions regarding this document should be referred.

The Apollo 8 mission was flown December 21 to 27, 1968.

Communicators in the text are identified as follows:

Command module:

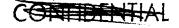| | | |
|---|---|---|
| CDR | Commander | Frank Borman |
| CMP | Command module pilot | James A. Lovell, Jr. |
| LMP | Lunar module pilot | William A. Anders |
| SC | Unidentifiable crewmember | |

Mission Control Center:

| | |
|---|---|
| CC | Capsule communicator (CAP COMM) |

Remote sites:

| | |
|---|---|
| CT | Communications technician (COMM TECH) |
| AB1 | Airboss 1 (Recovery aircraft) |
| R1, R2, R3 | Recovery 1, 2, 3 (Recovery helicopters) |
| YORK | USS Yorktown |

In the text, a series of three dots (...) is used to designate those portions of the communications which could not be transcribed because of garbling. One dash (-) is used to indicate a speaker's pause or a self-interruption. Two dashes (- -) are used to indicate an interruption by another speaker or a point at which a recording was abruptly terminated.

DAY 1

| | | |
|---|---|---|
| 00 00 22 42 | CDR | Roger. Thank you, Houston; Apollo 8 ... |
| 00 00 22 47 | CDR | Okay, going to close on A. |
| 00 00 22 50 | CMP | Okay, just give it a real small flip. |
| 00 00 22 54 | LMP | Is that why we've got that MASTER ALARM? |
| 00 00 22 57 | CDR | Okay, I'm - - |
| 00 00 22 59 | CC | Apollo 8, Houston. You have the tape recorder, LOW bit rate. Over. |
| 00 00 23 02 | CDR | Thank you. |
| 00 00 23 04 | LMP | Okay, we've got it. |
| 00 00 23 05 | CC | You're welcome. |
| 00 00 23 06 | CMP | Okay, EMERGENCY CABIN PRESSURE number 2 on the ... test. |
| 00 00 23 10 | LMP | Hit it. |
| 00 00 23 14 | CDR | It's ON here. |
| 00 00 23 15 | LMP | Got it. That's good. |
| 00 00 23 17 | CDR | You got it? |
| 00 00 23 18 | LMP | That's good. |
| 00 00 23 19 | CDR | Okay. |
| 00 00 23 20 | LMP | Okay, this is a tape recorder test: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10; 9, 8, 7, 6, 5, 4, 3, 2, 1. And for the record, when we put the radiator to FLOW, the GLYCOL DISCHARGE PRESSURE dropped. Boy, it's way down there now, something's fishy. |
| 00 00 23 40 | CDR | What's wrong? |
| 00 00 23 44 | LMP | Apparently, we're getting the GLYCOL DISCHARGE PRESSURE way down. |

| 00 00 23 51 | CDR | Oh?  What was wrong? |
| 00 00 23 52 | LMP | Wait awhile; it's the glycol pump. |
| 00 00 23 53 | CDR | Huh? |
| 00 00 23 58 | CDR | You lost the glycol pump? |
| 00 00 24 00 | LMP | Guess so. |
| 00 00 24 02 | CMP | Well, take a look; are we in PRIMARY? |
| 00 00 24 08 | LMP | Discharge pressure? |
| 00 00 24 10 | CDR | Not yet. |
| 00 00 24 11 | CMP | Huh? |
| 00 00 24 12 | LMP | You were - Oh, we're in SECONDARY.  That's okay. |
| 00 00 24 14 | CDR | It looks to me like it's picked up here. |
| 00 00 24 16 | LMP | Okay. |
| 00 00 24 17 | LMP | Yes. |
| 00 00 24 19 | CMP | Okay, what else do you want here? |
| 00 00 24 20 | LMP | It's okay. |
| 00 00 24 24 | LMP | Okay, - - |
| 00 00 24 26 | CMP | Secondary radiator leak check? |
| 00 00 24 27 | LMP | I'm ready this time (laughter).  It's secondary ... - I'm not going over, there. |
| 00 00 24 38 | CMP | Okay, - - |
| 00 00 24 39 | LMP | Okay, Jim. |
| 00 00 24 40 | CMP | - - the pressure's okay? |
| 00 00 24 42 | CMP | What do you want to do?  The secondary glycol radiator? |
| 00 00 24 44 | LMP | The second - let her flow. |

| | | |
|---|---|---|
| 00 00 24 45 | CMP | Well, wait a second; I'm not under the couch yet. |
| 00 00 24 48 | LMP | Okay, why don't you get underneath there, Jim, and give Frank a hand when you have a chance? |
| 00 00 24 52 | CMP | Well, how about let's take off our gloves and helmets, huh? |
| 00 00 24 54 | LMP | Okay. |
| 00 00 24 55 | CDR | Yes. |
| 00 00 24 56 | CMP | I mean, let's get comfortable. This is going to be a long trip. |
| 00 00 24 59 | CDR | You got - have you got the bags? |
| 00 00 25 01 | CMP | I'll get them. |
| 00 00 25 02 | LMP | I'll get them right now. |
| 00 00 25 19 | LMP | Okay, you want to get - CABIN AIR RETURN valve, ON. |
| 00 00 25 23 | CDR | Stand by; wait until I get my glove off. |
| 00 00 25 32 | CDR | CABIN AIR RETURN valve is OPEN. |
| 00 00 25 38 | CDR | Okay? |
| 00 00 25 40 | LMP | Okay. |
| 00 00 25 41 | CMP | Gentlemen. |
| 00 00 25 44 | CDR | Thank you. |
| 00 00 25 45 | LMP | Storage. |
| 00 00 25 50 | CMP | That's the gloves. |
| 00 00 25 57 | CDR | How's the cabin pressure, Bill? |
| 00 00 25 59 | LMP | Cabin pressure is holding good, Frank. |
| 00 00 26 00 | CDR | Okay. |
| 00 00 27 15 | LMP | You want the other bag there, Jim? |

| 00 00 27 19 | CMP | Let me see, I'm missing one bag here. |
| 00 00 27 31 | CMP | Wait 1. |
| 00 00 27 48 | CDR | Here you are. |
| 00 00 27 52 | CDR | Okay, you say you've got the EACPS power verifications in, Bill? |
| 00 00 27 56 | LMP | Yes, sir. |
| 00 00 27 57 | CDR | ECS monitor check? |
| 00 00 27 59 | LMP | Yes. |
| 00 00 28 00 | CMP | There is only - Oh, here it is. |
| 00 00 28 07 | LMP | Hey, it's like sitting on an ice rink, isn't it? |
| 00 00 28 08 | CDR | Yes.  SPS, Bill. |
| 00 00 28 11 | LMP | SPS is roughly the same as it was.  Got that one? |
| 00 00 28 13 | CDR | ... TLI. |
| 00 00 28 18 | CDR | Okay. |
| 00 00 28 32 | CMP | Okay, we can breathe a little bit, hear a little bit more, huh? |
| 00 00 28 34 | CDR | Yes, that was quite a ride, wasn't it? |
| 00 00 28 36 | CMP | Yes. |
| 00 00 28 37 | LMP | Man, that felt like that I-C was like an old freight train. |
| 00 00 28 43 | CMP | It is an old freight train, pal.  It really goes. |
| 00 00 29 31 | CDR | What's that noise? |
| 00 00 29 32 | CMP | That's me; I'm into the fan area. |
| 00 00 29 42 | CDR | Why don't we turn those fans off?  We don't need them, do we? |
| 00 00 29 52 | CMP | Okay, let's continue on with the checklist. |

| 00 00 29 59 | CMP | Okay, secondary radiator leak check, huh? |
| 00 00 30 02 | LMP | Confirmed. |
| 00 00 30 04 | CMP | Let me get out my fuel. |
| 00 00 30 09 | LMP | Okay, we are in POWER, manual 1; primary water, AUTO - okay. |
| 00 00 30 26 | CMP | Is she holding us in the proper attitude? |
| 00 00 30 28 | CDR | Yes.  I don't have the ORDEAL out yet; I can't tell, but it looks real good. |
| 00 00 30 33 | CMP | Okay, notify LMP when ready to commence. |
| 00 00 30 35 | LMP | I'm ready. |
| 00 00 30 36 | CMP | Secondary glycol to radiator valve, NORMAL. |
| 00 00 30 40 | LMP | Okay, just give me a buzz when you're - Yes, you're good. |
| 00 00 30 43 | CDR | You got your 278 circuit breaker 1 and 2, OPEN, Bill? |
| 00 00 30 44 | LMP | No, I'll go get it. |
| 00 00 30 45 | CDR | Good show. |
| 00 00 30 48 | LMP | ... system coming up. |
| 00 00 30 49 | CDR | Huh? |
| 00 00 30 50 | LMP | They're OFF. |
| 00 00 30 52 | CDR | Okay. |
| 00 00 30 55 | LMP | You're doing the radiator leak now, huh? |
| 00 00 30 57 | CMP | Okay - - |
| 00 00 30 59 | LMP | Have you got the radiator's talkback gray?  Are you ready, Jim? |
| 00 00 31 01 | CMP | All set whenever you are. |

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00 00 31 03    LMP    Okay, hit it.  Everything is normal.  Don't drop, you mother.  Looking good.  Hold it for a little while longer.

00 00 31 24    LMP    Okay, let's go, Jim.

00 00 31 25    CMP    Going to BYPASS.

00 00 31 26    LMP    Go back to BYPASS.  Good show.

00 00 31 29    CMP    Okay.  Frank?

00 00 31 30    CDR    Yes.

00 00 31 31    CMP    You want the ORDEAL?

00 00 31 32    CDR    Yes.

00 00 31 36    LMP    Okay, troops, I'm switching the other compressors.

00 00 31 39    CMP    Here you go.

00 00 31 40    LMP    I'm starting            dant component check.

00 00 31 45    CDR    Thank you, Bill.

00 00 31 46    CMP    Bill, let me take out the wire; it's easier on it.

00 00 31 47    LMP    Alright.

00 00 31 49    CMP    Okay.

00 00 31 53    CMP    Now, do you want the - What else do you want?

00 00 31 57    CDR    Well, you've got to get the camera bracket out for Bill.

00 00 31 59    CDR    Can we - let's see, can we - What are you doing, Bill?

00 00 32 04    LMP    I just quit checking the compressor.  I'm doing the redundant components check.

00 00 32 16    LMP    Okay, secondary glycol pump is ON.

00 00 32 20    CDR    Can you get that ORDEAL wire in that thing down there, Jim?

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| | | | |
|---|---|---|---|
| 00 00 32 23 | CMP | Yes. |
| 00 00 32 26 | LMP | Okay, secondary coolant loop's going to EVAP. |
| 00 00 32 32 | CMP | How's that? |
| 00 00 32 37 | LMP | Oh, you sweet little mother. |
| 00 00 32 39 | CMP | Is that okay? |
| 00 00 32 40 | CDR | Yes. |
| 00 00 32 42 | CMP | Okay. |
| 00 00 32 50 | LMP | Secondary EVAP has stabilized. |
| 00 00 33 00 | CMP | Camera bracket. |
| 00 00 33 03 | LMP | Thank you. That's Frank's. |
| 00 00 33 08 | CDR | Huh? |
| 00 00 33 10 | LMP | That's the long one. |
| 00 00 33 11 | CDR | What are you doing? |
| 00 00 33 13 | CMP | Drinking water. |
| 00 00 33 14 | LMP | I'm not sure, but it sure looks like the long one. |
| 00 00 33 17 | CDR | Just make sure we get the right one. |
| 00 00 33 18 | LMP | Well, we'll get the other one. |
| 00 00 33 22 | CDR | Jim, where's the other camera bracket? |
| 00 00 33 24 | CMP | Well, there's - I only saw the one in there; I may be wrong ... |
| 00 00 33 28 | LMP | Yes, this is yours, Frank. You want to stick it up here? |
| 00 00 33 30 | CDR | I don't want mine up here all the time. |

| | | |
|---|---|---|
| 00 00 33 33 | CMP | The water's OFF. |
| 00 00 33 35 | CDR | Okay. |
| 00 00 33 36 | CMP | You might try the drinking water before we leave on TLI, too, by the way. |
| 00 00 33 39 | LMP | We can get it out over Hawaii. |
| 00 00 33 40 | CDR | Hey, I don't want this thing up here; it's going to just be in my way.  You sure this isn't yours? |
| 00 00 33 46 | LMP | I'll stick it up until we get another one. |
| 00 00 33 48 | CMP | Should I wait for another one? |
| 00 00 33 50 | CDR | Yes. |
| 00 00 33 52 | CMP | Well, is there another camera bracket?  How many camera brackets in that - that -? |
| 00 00 33 55 | CDR | I thought there were two in there. |
| 00 00 33 57 | LMP | I did, too. |
| 00 00 34 00 | CDR | That's the best we're going to get. |
| 00 00 34 02 | LMP | Okay, I'm going to secure the secondary evaporator. |
| 00 00 34 05 | CDR | Jim, are you - You're not using the computer now, are you? |
| 00 00 34 08 | CMP | It can go. |
| 00 00 34 09 | CDR | Can I use a VERB 83? |
| 00 00 34 10 | CMP | Yes.  Yes. |
| 00 00 34 29 | CMP | Okay. |
| 00 00 34 37 | CMP | Okay, I want to jettison the covers. |
| 00 00 34 49 | CMP | Now, I'll unstow the cameras. |
| 00 00 34 51 | LMP | I keep looking around here; I won't see it again. We've got a Madaga - What's this coming up? Madagascar or what? |

00 00 34 59     CDR     Yes.

00 00 35 03     CDR     Okay.

00 00 35 06     CMP     Buzz has my eye patch.

00 00 35 13     LMP     Okay, EVAP's going OFF.

00 00 35 14     CMP     (Singing)

00 00 35 18     LMP     SECONDARY PUMP, going OFF.

00 00 35 19     CMP     (Singing)

00 00 35 24     LMP     ECS indicator's PRIMARY.

00 00 35 25     CDR     You got the redundant components checked, Bill?

00 00 35 27     LMP     Checked, and we passed.

00 00 35 31     CDR     You got the fuel cells purge check?

00 00 35 33     LMP     Huh?

00 00 35 34     CDR     Does the fuel cell purge - -

00 00 35 35     LMP     I haven't got that yet.

00 00 35 39     CDR     We should be getting - getting over Tananarive.

00 00 35 54     LMP     You want to check me off here?

00 00 35 55     CDR     Yes, I'd - I'd like to.

00 00 35 57     LMP     Okay, I've done EPS periodic verification.

00 00 36 01     CDR     Good enough.  Alright.

00 00 36 04     LMP     ECS monitoring.

00 00 36 06     CDR     Alright.

00 00 36 08     LMP     SPS monitoring.

00 00 36 12     CDR     Okay.

| 00 00 36 13 | LMP | ECS redundant components.  I'm ready to go on fuel cell purge. |
| 00 00 36 17 | CMP | (Singing) |
| 00 00 36 18 | LMP | Purge line heater has been ON.  Stand by for a MASTER ALARM.  Purging fuel cell 1, $H_2$. |
| 00 00 36 30 | LMP | That it? |
| 00 00 36 31 | CDR | Yes. |
| 00 00 36 32 | LMP | $O_2$. |
| 00 00 36 37 | LMP | Okay. |
| 00 00 36 39 | CDR | I didn't get a high ... too well - - |
| 00 00 36 41 | LMP | Probably won't ... $H_2$, stand by. |
| 00 00 36 45 | CDR | Yes. |
| 00 00 36 46 | LMP | Okay.  Okay. |
| 00 00 36 51 | CMP | How's VERB 83 looking? |
| 00 00 36 53 | LMP | That it? |
| 00 00 36 54 | CDR | Perfect. |
| 00 00 36 55 | LMP | Fuel cell 3 - - |
| 00 00 36 56 | CMP | Ooooh!  (Yawn) |
| 00 00 36 57 | LMP | - - Stand by. |
| 00 00 37 00 | LMP | Okay.  Okay. |
| 00 00 37 06 | CMP | Drinking water supply is ON. |
| 00 00 37 08 | CC | Apollo 8, Houston.  Over. |
| 00 00 37 09 | CMP | I'll unstow the covered cameras here, but first let me get the dust covers jettisoned.  Okay? |
| 00 00 37 13 | CDR | Okay. |

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| | | |
|---|---|---|
| 00 00 37 14 | LMP | Purge - purge check is complete, fuel cell line heaters are OFF. |
| 00 00 37 18 | CDR | Houston, Apollo 8. How do you read? |
| 00 00 37 22 | CC | Apollo 8, Houston. Reading you weak, but clear. How me? |
| 00 00 37 25 | CDR | You're loud and clear, Mike. Everything seems to be going very well. |
| 00 00 37 31 | CC | Okay, everything looks real good here on the ground with both vehicles. We still have you 103 by 99 on your orbit from our low-speed data, and everything's looking very good. Over. |
| 00 00 37 41 | CDR | Roger. Thank you. |
| 00 00 37 42 | CMP | G&N OPTICS POWER, going ON. |
| 00 00 37 45 | CDR | Well, do you want me to get out of VERB 83? |
| 00 00 37 47 | CMP | No, you are okay. |
| 00 00 37 49 | CDR | When are you going to unstow the camera? - |
| 00 00 37 51 | CMP | As soon as I get this thing done. |
| 00 00 37 53 | CMP | Okay, OPTICS COUPLING, DIRECT - DIRECT - The speed is HIGH. Okay, here we go, gentlemen. |
| 00 00 38 02 | CMP | I'm not going to look into them for a while. |
| 00 00 38 12 | CDR | Okay, 1 minute. |
| 00 00 38 18 | CMP | ... I still think it's still kind of chilly in here. |
| 00 00 38 24 | LMP | They OFF, Jim? |
| 00 00 38 29 | CMP | Yes, I guess so. Oh, I see a whole bunch of stuff - Oh, here we go. |
| 00 00 38 33 | LMP | They both OFF? |
| 00 00 38 36 | CMP | Yes, I - I guess I was just looking at the - |
| 00 00 38 40 | LMP | It's blacker than pitch out there, remember. |
| 00 00 38 43 | CMP | Boy, everytime I - Why? Is it dark out? |

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00 00 38 47  LMP   Yes, you're looking up into pretty much blackness.

00 00 38 49  CMP   Everytime I move the thing, I got a whole bunch of - of sparks, or you know, not sparks, but - -

00 00 38 54  LMP   Did they go?

00 00 38 56  CMP   I guess, I can't see - -

00 00 38 57  LMP   If you can see the glitter, you got - you've got it.

00 00 39 03  LMP   Turn the lights down?

00 00 39 04  CDR   Where's the other camera bracket, I wonder?

00 00 39 09  LMP   I don't know; I've always expected that other one to come out of there.

00 00 39 13  CDR   Listen, don't we have a stowage list in the back of the checklist?

00 00 39 17  LMP   That's what I am looking for, but I can't find it.

00 00 39 23  CMP   Okay, can I go into a 1691?

00 00 39 27  CDR   Yes.  Go back to P00 first, Jim.

00 00 39 29  CMP   Yes.  Yes, I'll just skip that.  Proceed.

00 00 39 53  LMP   Do you have Tananarive?

00 00 39 56  CDR   Yes, we had them when we took the film.

00 00 40 00  LMP   Did Jim doublecheck to make sure that wasn't in there?

00 00 40 03  CDR   What's that?

00 00 40 04  LMP   That other camera bracket.

00 00 40 05  CMP   No, I haven't doublechecked yet.

00 00 40 07  CMP   I don't see anything - -

00 00 40 09  LMP   - - We can handle that.

00 00 40 11  CDR   What did you say, Jim?

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| | | |
|---|---|---|
| 00 00 40 12 | CMP | I don't see anything in the sextant. |
| 00 00 40 15 | CDR | You don't? |
| 00 00 40 16 | CMP | No. |
| 00 00 40 22 | CMP | Now this thing's all the way. |
| 00 00 40 27 | CMP | I heard something then. |
| 00 00 40 30 | LMP | I'm flipping switches, and - |
| 00 00 40 40 | CMP | I thought I'd see something in the sextant. |
| 00 00 40 50 | CDR | Can you see out of the telescope? |
| 00 00 40 57 | CMP | Yes, yes, yes, I sure do. |
| 00 00 41 03 | LMP | Why don't you see if we can get the camera stuff unstowed before you go into darkness? |
| 00 00 41 08 | CMP | Okay. |
| 00 00 41 12 | LMP | Those cameras and that other junk. |
| 00 00 41 15 | CMP | I - I see something in here. I thought maybe I could maybe get it into the sextant to see better. |
| 00 00 41 21 | LMP | You're going to be doing that alignment, that P52. |
| 00 00 41 25 | CMP | Well, okay. I'm just doublechecking. |
| 00 00 41 32 | CMP | I think I see something floating. |
| 00 00 41 38 | CC | Apollo 8, Houston. |
| 00 00 41 40 | CDR | Go ahead, Houston; Apollo 8. |
| 00 00 41 42 | CC | We have 1 minute to LOS Tananarive. We'll see you again over Carnarvon at 52:09. Over. |
| 00 00 41 51 | CDR | Roger. We do have the optics covers jettisoned. It appears everything seems to be going fine. |
| 00 00 41 57 | CC | Roger; optics cover jettisoned. Thank you. |
| 00 00 42 01 | CMP | Okay. B3 is what I have right here. |

| | | |
|---|---|---|
| 00 00 42 29 | CMP | Okay. You want the 16-millimeter camera, right? |
| 00 00 42 31 | CDR | Yes, here. |
| 00 00 42 33 | CMP | Right now; I'll just give you all these little goodies right now. - |
| 00 00 42 38 | LMP | Okay, if Frank can hold it and hand it up to me - |
| 00 00 42 42 | CDR | What do you want? |
| 00 00 42 44 | LMP | The 16-millimeter camera and the 18-millimeter lens? |
| 00 00 42 50 | CDR | Okay, this is the 16-millimeter camera. You got the right kind of film in there? C-EX, ASA 60 - - |
| 00 00 42 54 | CMP | C-EX? That right? |
| 00 00 42 55 | LMP | Jim, you can head underneath and get that spotmeter. |
| 00 00 42 57 | CMP | Okay. |
| 00 00 42 59 | CDR | 18-millimeter lens, and you need a mirror? |
| 00 00 43 01 | LMP | Yes, I guess. |
| 00 00 43 03 | CDR | Huh? |
| 00 00 43 04 | LMP | Yes, but I don't - I'm not sure it's going to fit on this - on this bracket here. I don't think it will. |
| 00 00 43 10 | CMP | Where have we got the spotmeter located here? |
| 00 00 43 12 | CDR | Right in here. Can I help you with it? |
| 00 00 43 15 | LMP | Way under there? |
| 00 00 43 26 | CDR | And is this the 75-millimeter magazine camera you want here? |
| 00 00 43 33 | LMP | That's all I can get now. |
| 00 00 43 37 | LMP | Do you see it in there, Jim? |
| 00 00 43 39 | CMP | No, I'll look for it. I - I might see it if I kind of look for it. |

| | | |
|---|---|---|
| 00 00 43 43 | LMP | Can you hang on to that one for a second, Frank? Okay, we've got the - |
| 00 00 43 50 | CMP | Yes, here it comes up here. |
| 00 00 43 52 | LMP | Alright. |
| 00 00 43 53 | LMP | Which way? |
| 00 00 43 54 | CMP | This way; to your right.  Anything else down here? |
| 00 00 44 00 | CDR | Nope. |
| 00 00 44 01 | LMP | We need that other camera bracket.  Let's put this one back. |
| 00 00 44 03 | CDR | We sure do. |
| 00 00 44 06 | CMP | How about going into your - into the stowage list and find out where it is.  I haven't - - |
| 00 00 44 09 | LMP | I can't seem to find the stowage list, either. |
| 00 00 44 12 | CDR | Maybe that's in your section. |
| 00 00 44 14 | CMP | It's in the flight plan. |
| 00 00 44 16 | LMP | No, this one won't work.  We're going to have to use the other one. |
| 00 00 44 18 | CDR | What one won't work? |
| 00 00 44 19 | LMP | This camera bracket. |
| 00 00 44 20 | CDR | Oh. |
| 00 00 44 24 | CDR | Maybe you want to put the - This is all you need right here now, isn't it, Bill?  You want to put that back?  Here, I'll hold your checklist. |
| 00 00 44 33 | CDR | I thought we had one of those stowage lists in the back of your checklist. |
| 00 00 44 35 | LMP | Okay, I need camera number 2 with a 80-millimeter lens and some C film in it. |
| 00 00 44 40 | CMP | You've got it, haven't you? |

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|---|---|---|---|
| 00 00 44 42 | CDR | Camera 2, magazine A, C film; right here. |
| 00 00 44 52 | CMP | (Singing) |
| 00 00 44 56 | LMP | Coming up on darkness. |
| 00 00 44 57 | CMP | (Singing) |
| 00 00 44 59 | CDR | Yes, Jim, you'd better start getting ready for the first eclipse. |
| 00 00 45 02 | CMP | Okay. |
| 00 00 45 13 | LMP | You couldn't check that camera bracket real quick, Jim? |
| 00 00 45 16 | CMP | I'll look in here. |
| 00 00 45 18 | LMP | Okay. |
| 00 00 45 22 | CDR | 70-millimeter camera; you got all that. You got the spotmeter too, please, Bill? |
| 00 00 45 25 | LMP | I do. I've got everything I need except that bracket. ... This is a good enough place to keep it. |
| 00 00 45 40 | CMP | (Singing) |
| 00 00 45 43 | CDR | Do you need your checklist, Jim? Here I'll give it back. |
| 00 00 45 45 | CMP | Well, I'll be darned. ... |
| 00 00 45 50 | CDR | Wait a minute. |
| 00 00 45 52 | CMP | Thank you. |
| 00 00 45 53 | CDR | Well, it doesn't make it that far for TLI. |
| 00 00 46 12 | CDR | Okay, we're right up there. |
| 00 00 46 14 | CMP | How are we doing? |
| 00 00 46 16 | CDR | We're doing fine. We should be getting there. All we need is that other camera bracket. |
| 00 00 46 26 | CMP | I'm warm now. How about you? |
| 00 00 46 27 | CDR | I'm hot. |

00 00 46 28  LMP    Man, I'm cold still.

00 00 46 50  LMP    Boy, is this ...!  Hey, don't let me forget about
                    this camera, when we light off here.  It's spread
                    all over the place.

00 00 46 56  CMP    Hey, that's right.

00 00 47 18  CMP    I hope I can see something out of here soon.

00 00 47 20  CDR    How's the cabin pressure?

00 00 47 22  LMP    It has kind of eased down a little bit.

00 00 47 27  CDR    What are you doing, Jim?

00 00 47 29  CMP    I'm okay.  I'm just getting this all put together here.

00 00 47 33  CDR    Do you want me to read off anything to you - from
                    the checklist?  Form a checklist, maybe?

00 00 47 38  CMP    I've got the P52 realign.  You might kind of
                    doublecheck me on it; maybe - I'm here and I'm
                    going to turn down the floodlights and get - get
                    my eye adapted here, because I don't see schmatz
                    out there right now.

00 00 47 55  CDR    Hope it hasn't clouded up ...

00 00 47 58  CMP    Frank, I sure hope you're right.

00 00 48 06  CDR    Alright, CM - do not key VERB 82.  Do you want to
                    go - start right from scratch with P00?

00 00 48 13  CMP    Yes, okay.  I'm going to bring this optics toward zero.

00 00 48 18  CDR    CMC, ON; ISS is ON; PSS is - SCS is operating; BMAG's,
                    three, are RATE 2 - G&N POWER OPTICS, ON?  Jim?

00 00 48 29  CMP    G&N POWER OPTICS are ON.

00 00 48 31  CDR    CMC is FREE; OPTICS MODE, ZERO.

C0 00 48 36  CMP    Okay, stand by.  I am going to go - I'm driving it
                    to zero ...

| 00 00 48 48 | CMP | Uh - oh, the trunnion won't go any farther than - 45, and - |
| 00 00 48 58 | CDR | Need the lights down a little bit, Jim? |
| 00 00 49 03 | CMP | Now, it's just SCS. Okay, I can see. Okay, I'm going to go to zero. I don't think - It must be going to zero. |
| 00 00 49 35 | CMP | Okay, that looks good. ... Okay, I think I see something out there now. |
| 00 00 49 44 | CDR | You got the OPTIC MODE to zero? |
| 00 00 49 46 | CMP | Yes. |
| 00 00 49 47 | CDR | OPTIC MODE, CMC. |
| 00 00 49 48 | CMP | OPTIC MODE, CMC. |
| 00 00 49 51 | CDR | What are you doing now? |
| 00 00 49 52 | CMP | Okay, I'll go - I'll go to POO right now. |
| 00 00 49 58 | CMP | That's what you get with the burn. |
| 00 00 50 00 | CDR | Okay. |
| 00 00 50 01 | CMP | And by the way, we used VERB 66 at the end of our burn. |
| 00 00 50 07 | CDR | We did? |
| 00 00 50 08 | CMP | That's affirmative. |
| 00 00 50 12 | CDR | Hey, are you going to 52, now? |
| 00 00 50 14 | CMP | Well, are we dark or light out there? |
| 00 00 50 17 | CDR | Well, you ought to be able to get it even in light. It's getting dark now. |
| 00 00 50 20 | CMP | Okay. Well, I want to make sure we got a good one. |
| 00 00 50 22 | CMP | Okay, VERB 37, ENTER; 52, ENTER. You want a REFSMMAT option? |
| 00 00 50 32 | CMP | VERB 22, ENTER; 3, ENTER - - |

00 00 50 38   LMP    There's a couple of nice stars out here.

00 00 50 40   CMP    - - ENTER. Okay. All set, gentlemen?

00 00 50 44   CDR    Yes.

00 00 50 46   LMP    Hey, there's a bunch of stuff flying off this thing.

00 00 50 47   CMP    I know; that's what I was afraid of.

00 00 50 50   LMP    Real bright - I wonder why they're so bright?

00 00 50 52   CDR    The sun's shining.

00 00 50 54   LMP    Are we - We're boiling?

00 00 50 55   CDR    Is the sun shining, really?

00 00 50 56   CDR    Yes, look here, I got sun in it.

00 00 50 58   LMP    Oh Christ (laughter), I thought it was nighttime over here!

00 00 51 01   LMP    I can see a lot of stars over on this side.

00 00 51 06   CDR    What are you doing, Jim?

00 00 51 07   CMP    Well, I'm getting the optics adjusted here.

00 00 51 09   CDR    Yes, they make you - -

00 00 51 10   CMP    Okay, 06; 06 is what? 06 is Acamar. Worst star in the world for me to look at! Oh, I'm getting more stars now.

00 00 51 22   CMP    Okay, here we go, gentlemen.

00 00 51 24   LMP    You got a real bright star - -

00 00 51 26   CMP    Zero off, right?

00 00 51 27   CDR    Yes.

00 00 51 28   LMP    Real bright star - star like - -

00 00 51 30   CMP    Zero off.

00 00 51 31   CDR    CMC; optic mode should be CMC.

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|---|---|---|---|
| 00 00 51 34 | CMP | CMC?  Oh, to C, huh? |
| 00 00 51 49 | CMP | Holy cow! |
| 00 00 51 50 | CDR | Any luck? |
| 00 00 51 57 | CMP | Well, it stopped by a star.  The star's out, but I don't know what it is, though. |
| 00 00 52 01 | CDR | Can you see it through the telescope? |
| 00 00 52 03 | CMP | Yes.  It seems to look like - Okay, I'm going to go to RESOLVE - LOW, and MANUAL. |
| 00 00 52 31 | CMP | CMC; proceed; Spica's the one I want; proceed; okay; 15, that's Sirius. |
| 00 00 52 41 | CDR | We there yet? |
| 00 00 52 43 | CMP | Yes, proceeding. |
| 00 00 52 45 | CC | Apollo 8, Houston. |
| 00 00 52 48 | CDR | Go ahead, Houston; Apollo 8.  You're loud and clear. |
| 00 00 52 51 | CC | Roger; you're loud and clear over Carnarvon.  We'd like to take the DSE away from you for a second. |
| 00 00 52 55 | LMP | Go. |
| 00 00 52 56 | CDR | Roger; go ahead. |
| 00 00 53 00 | CC | Thank you. |
| 00 01 04 32 | LMP | Roger; 01:28:13.  Thank you. |
| 00 01 04 36 | CMP | (Singing) |
| 00 01 04 37 | CC | We are giving the DSE back to you, Apollo 8. |
| 00 01 04 40 | LMP | Roger, thank you. |
| 00 01 05 00 | CMP | Okay, what I can do is put this camera bracket - How about putting it in your temporary stowage bag, Bill? |
| 00 01 05 09 | LMP | Whatever you want.  Has anybody seen the - Oh, there it is. |

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|---|---|---|
| 00 01 05 18 | CMP | Okay, who's got - You got my TLI checklist, don't you, Bill? Or Frank? Oh, I got it. Now, everyone a flight plan out? |
| 00 01 05 33 | CDR | Okay, ... |
| 00 01 05 37 | CMP | Or do you want to wait until after TLI? |
| 00 01 05 40 | LMP | Okay, S-band volume, down. I'm doing - I'm doing the - the - this check. |
| 00 01 06 10 | CMP | That booster was quite a ride. I'm still impressed. |
| 00 01 06 18 | CMP | I was a little worried at that pogo there on the second stage - something we didn't expect. |
| 00 01 06 53 | CMP | (Singing) |
| 00 01 07 00 | CMP | Anyone want me down here for anything else? |
| 00 01 07 10 | CMP | Well, I'm going to get prepared to get back in. |
| 00 01 07 20 | CDR | You going to get that data up? |
| 00 01 07 22 | CMP | You want the data now, or do you want to do the TLI checklist? |
| 00 01 07 25 | CDR | Data box. |
| 00 01 07 27 | CMP | You want the data box now, or do you want to wait to TLI? |
| 00 01 07 34 | CDR | ... be happy. He didn't have the systems book manual. |
| 00 01 07 39 | CDR | We ought to get those cards, too, Jim. |
| 00 01 07 45 | CMP | Well, I hate to keep all these hoses around here, ... after TLI. |
| 00 01 08 43 | CDR | Okay. A 5-degree difference between - |
| 00 01 09 25 | CDR | ... |
| 00 01 09 28 | LMP | You mean you need it again? |
| 00 01 09 30 | CDR | Not unless you want to. |
| 00 01 09 55 | CMP | Now, let me see. I don't know whether we need these lights on or not. |

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|---|---|---|
| 00 01 09 59 | LMP | Let me have 4-B in the SYSTEMS TEST, will you, Jim? |
| 00 01 10 03 | CMP | 4-B? |
| 00 01 10 04 | LMP | Yes, roughly. |
| 00 01 10 05 | CMP | Okay. |
| 00 01 10 08 | LMP | You can go ahead and turn it OFF. |
| 00 01 10 26 | CDR | You want to hand me that metal box, Jim, as soon as you finish? |
| 00 01 10 33 | LMP | It will be a lot more convenient when we can all get undone. |
| 00 01 10 37 | CMP | Yes, you want it? |
| 00 01 10 38 | CDR | Not really, but ... |
| 00 01 10 46 | CMP | Gentlemen. |
| 00 01 10 47 | CDR | ... BIOMED around me. They've been looking at me all the time. |
| 00 01 10 53 | CMP | Would you believe that I think I see little gullies here? |
| 00 01 10 56 | LMP | Huh? |
| 00 01 10 59 | CDR | Where do we go, to the CENTER or what? Must be somebody else. |
| 00 01 11 01 | LMP | Maybe they didn't want the - Where's the ...? |
| 00 01 11 04 | CMP | They had me for the whole preflight. |
| 00 01 11 11 | LMP | You're not going to be able to write on that dump list, are you? |
| 00 01 11 14 | CMP | Well, we'll see. |
| 00 01 11 15 | CDR | Hey, you got that metal box? |
| 00 01 11 17 | CMP | Coming. |
| 00 01 11 18 | CDR | You got a ... down there. |

| | | |
|---|---|---|
| 00 01 11 24 | CMP | Well, that's a problem. I can't help that. |
| 00 01 11 44 | CDR | Don't look at me on that. |
| 00 01 11 48 | LMP | You beginning to see a little horizon against the moon there? |
| 00 01 11 52 | CMP | ... |
| 00 01 11 54 | LMP | Yes, you can see that. It would be good if we had that for retro, wouldn't it? Entry, I mean. The thing is, we ... |
| 00 01 12 06 | LMP | You want to make any comments about the boost part, if you get time to do it? |
| 00 01 12 12 | CDR | Okay. |
| 00 01 12 14 | LMP | Make them good and loud and clear; make sure everything's - - |
| 00 01 12 15 | CDR | Are we on there now? |
| 00 01 12 16 | LMP | Yes. |
| 00 01 12 17 | CDR | Alright, the boost - - |
| 00 01 12 19 | CMP | Metal box. |
| 00 01 12 20 | CDR | Stand by. |
| 00 01 12 30 | CDR | I can't see where this thing goes in down there. You'll have to help me, Jim. You got a flashlight? |
| 00 01 12 38 | LMP | Here you go. |
| 00 01 12 40 | CDR | I can't get it, but I think it's supposed to fit the bottom one here. Okay. |
| 00 01 12 44 | CMP | Down below? |
| 00 01 12 45 | CDR | Yes. Down here. See? I - that thing fits in underneath here and I can't - - |
| 00 01 12 54 | CMP | I'll put my feet over here. |
| 00 01 12 57 | CDR | We'll get those little things to stick in those rings down there. You see what I mean? |